

TITLE: SYSTEM AND METHOD FOR DETECTION ENHANCEMENT PROGRAMMING  
INVENTORS NAME: James O. Gilkerson et al.  
SERIAL NO.: 279.209US2

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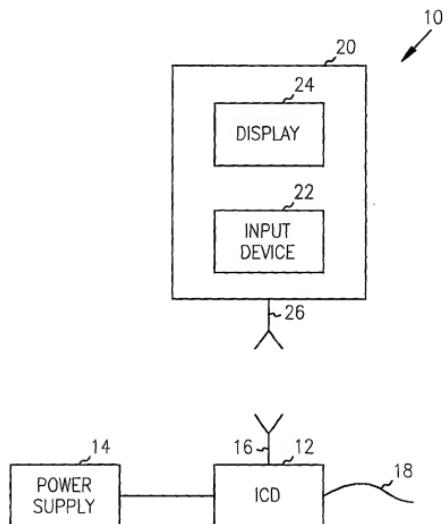


FIG. 1

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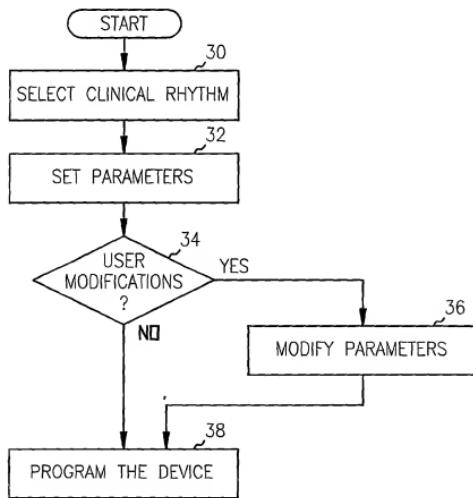


FIG. 2

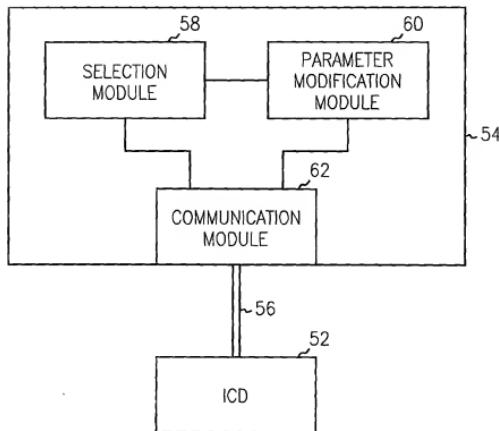


FIG. 3

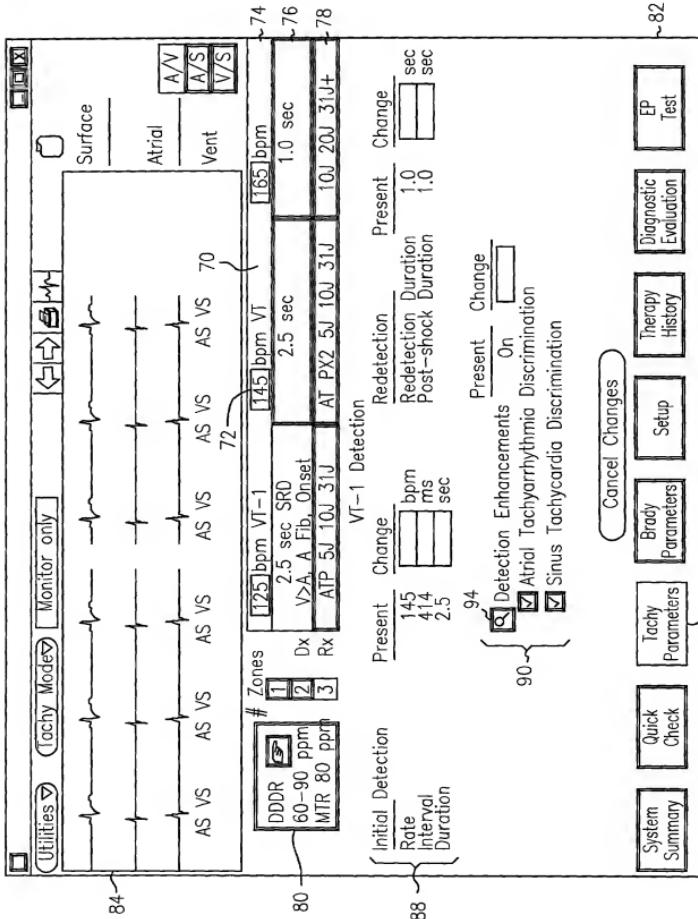


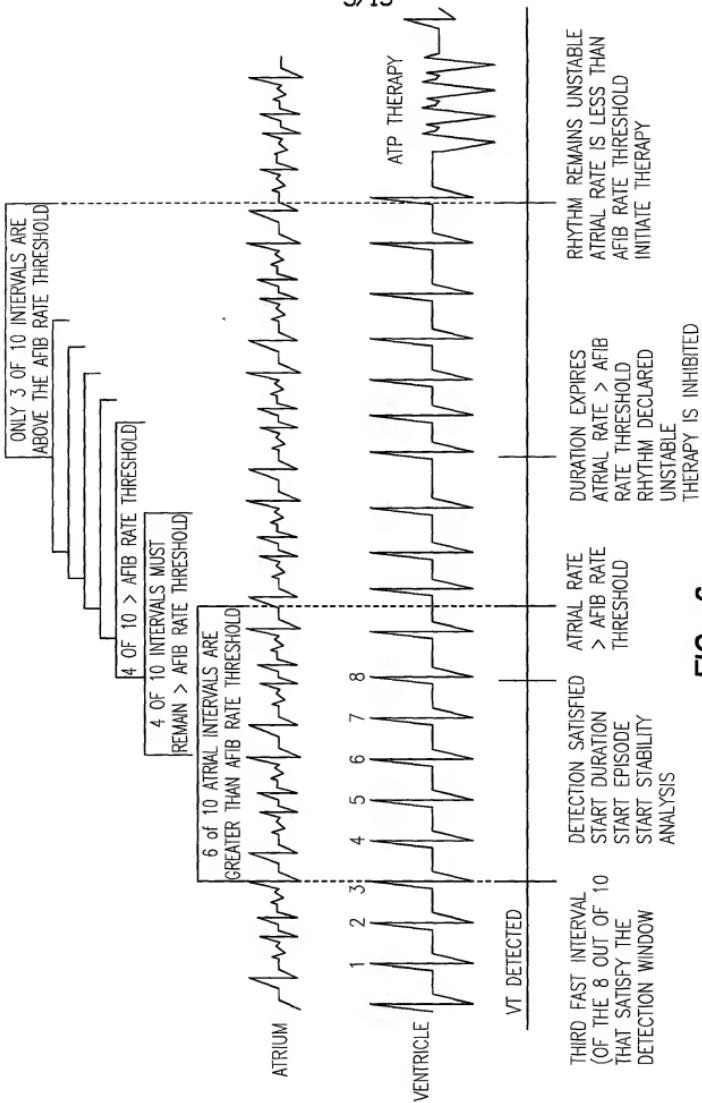
FIG. 4

	VT-1 ZONE	VT ZONE	VF ZONE
1-ZONE CONFIGURATION			NONE
2-ZONE CONFIGURATION	V RATE > A RATE AFIB RATE THRESHOLD STABILITY ONSET SRD	SHOCK IF UNSTABLE <sup>a</sup>	NONE
3-ZONE CONFIGURATION	V RATE > A RATE AFIB RATE THRESHOLD STABILITY ONSET SRD	SHOCK IF UNSTABLE	NONE

<sup>a</sup> SHOCK IF UNSTABLE CANNOT BE PROGRAMMED ON IN THE SAME ZONE AS OTHER DETECTION ENHANCEMENTS THAT ARE PROGRAMMED TO INHIBIT THERAPY (ONSET, STABILITY, AND AFIB RATE THRESHOLD)

FIG. 5

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DETECTED RHYTHM	AFIB RATE THRESHOLD WITH STABILITY
GRADUAL, UNSTABLE A > AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
GRADUAL, UNSTABLE A < AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
SUDDEN, UNSTABLE A > AFIB RATE THRESHOLD	INHIBIT UNTIL STABLE, V > A OR SRD (IF ON)
SUDDEN, UNSTABLE A < AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION <sup>a</sup>
GRADUAL, STABLE A > AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION <sup>b</sup>
GRADUAL, STABLE A < AFIB RATE THRESHOLD	INHIBIT UNTIL V > A OR SRD (IF ON)
SUDDEN, STABLE A > AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, STABLE A < AFIB RATE THRESHOLD	TREAT IMMEDIATELY AT END OF DURATION

a. IF V RATE > A RATE IS PROGRAMMED ON AND IS FALSE, THEN THERAPY WILL BE INHIBITED IF THE RHYTHM IS UNSTABLE

b. IF V RATE > A RATE IS PROGRAMMED ON AND IS FALSE, THERAPY WILL STILL BE INITIATED BECAUSE THE RHYTHM IS DECLARED STABLE

FIG. 7

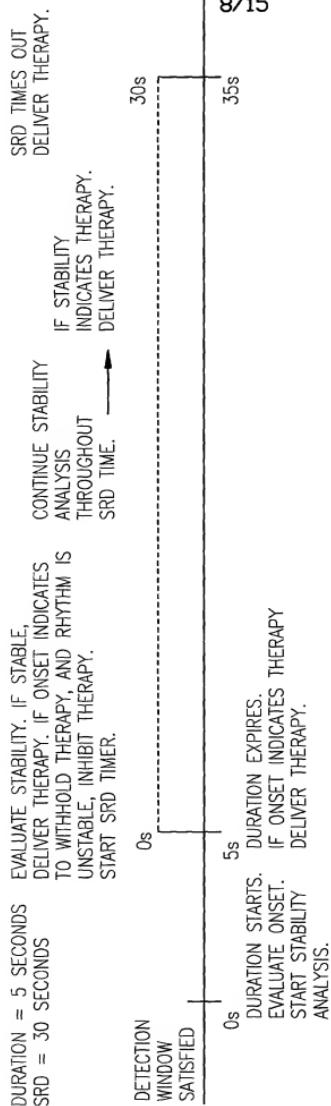
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DETECTED RHYTHM	POSSIBLE COMBINATIONS	POSSIBLE COMBINATIONS
	ONSET AND STABILITY a	ONSET OR STABILITY
GRADUAL, UNSTABLE	INHIBIT UNTIL $V > A$ OR SRD (IF ON)	INHIBIT UNTIL RHYTHM BECOMES STABLE, $V > A$ , OR SRD (IF ON)
GRADUAL, STABLE	INHIBIT UNTIL $V > A$ OR SRD (IF ON)	TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, UNSTABLE		TREAT IMMEDIATELY AT END OF DURATION
SUDDEN, STABLE		TREAT IMMEDIATELY AT END OF DURATION

a. THE AND COMBINATION IS THE NOMINAL SETTING WHEN BOTH ARE ENABLED

FIG. 8



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FIG. 9

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UT-1 Detection Enhancements

Initial	Present	Change	Redetection	Present	Change
<input checked="" type="checkbox"/> Rate > A Rate	On	<input type="checkbox"/> bpm <input type="checkbox"/> ms	Post-Shock	On	<input type="checkbox"/> bpm <input type="checkbox"/> ms
A FB Rate Threshold	Off	<input type="checkbox"/> bpm <input type="checkbox"/> ms	Rate > A Rate	Off	<input type="checkbox"/> bpm <input type="checkbox"/> ms
And	10	<input type="checkbox"/> Or	A FB Rate Threshold	10	<input type="checkbox"/> ms
Onset	9	<input type="checkbox"/> ms	Stability	9	<input type="checkbox"/> ms
Sustained Rate Duration	0:30	<input type="checkbox"/> ms	Sustained Rate Duration	0:30	<input type="checkbox"/> ms

FIG. 10

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RHYTHM DISCRIMINATION AVAILABLE PER ZONE			
	VT-1 ZONE	VT ZONE	VF ZONE
3-ZONE CONFIGURATION	ATRIAL TACHYARRHYTHMIA SINUS TACHYCARDIA	POLYMORPHIC VT	NONE
2-ZONE CONFIGURATION		ATRIAL TACHYARRHYTHMIA SINUS TACHYCARDIA OR POLYMORPHIC VT	NONE

FIG. 11

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PARAMETER	ATRIAL TACHYARRHYTHMIA	SINUS TACHYCARDIA	POLYMORPHIC VT
V > A	ON	ON	
A FIB RATE THRESHOLD	200 MIN <sup>-1</sup>		
STABILITY (INHIBIT)	10 ms		
ONSET (INITIAL DETECTION ONLY)		9 %	
SRD	INITIAL REDETECTION	0:30 MINUTES:SECONDS 0:15 MINUTES:SECONDS	0:30 MINUTES:SECONDS
SHOCK IF UNSTABLE			30 MS

FIG. 12

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PARAMETER	ATRIAL TACHYARRHYTHMIA	SINUS TACHYCARDIA	POLYMORPHIC VT
STABILITY (INHIBIT)	30 ms		
ONSET (INITIAL DETECTION ONLY)		9 %	
SRD	INITIAL REDETECTION	0:30 MINUTES:SECONDS 0:15 MINUTES:SECONDS	0:30 MINUTES:SECONDS
SHOCK IF UNSTABLE			30 MS

FIG. 13

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UT-1 Detection		
Initial	Present	
Date	160	
Interval	375	
Duration	2.5	
	Change	
	145	
	415	
	ns	
	sec	
	Present	
	Redetection	
	Redetection Duration	1.0
	Post-shock Duration	1.0
	Change	
	1	
	Present	
	On	
	Change	
	DetecEnhanc	<input type="checkbox"/>
	ATR	<input checked="" type="checkbox"/>
	Sinus Tachycardia Discrimination	<input checked="" type="checkbox"/>
	Sinus Tachycardia Discrimination	<input checked="" type="checkbox"/>
	Cancel Changes ]	

FIG. 14

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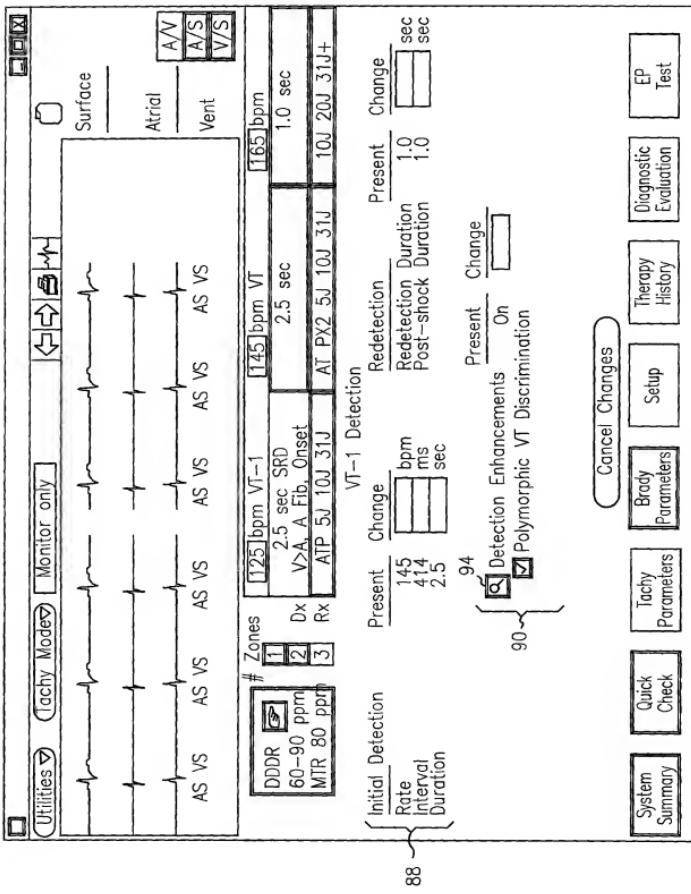


FIG. 15

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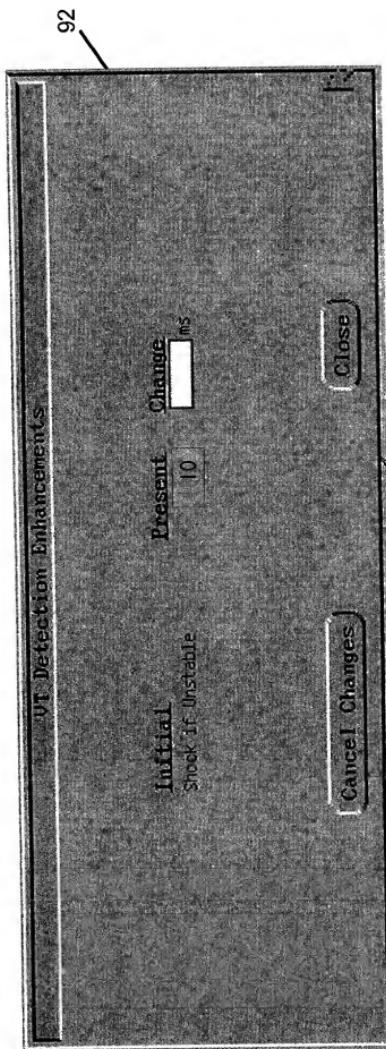


FIG. 16